

REMARKS

As a preliminary matter, Applicant appreciates the Examiner's indication that Claims 2, 3, 5, 6, 8, 9, 11, 12, 14 and 15 have been allowed.

Claims 1, 4, 7, 10 and 13 stand rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,026,143 to Tanaka et al. Applicant respectfully traverses this rejection.

Applicant respectfully submits that the Tanaka et al. reference fails to disclose all of the features of the claimed invention. More specifically, the Tanaka et al. reference fails to disclose a pattern forming method for forming a resist pattern across first and second divided exposure regions, where the method includes, *inter alia*, the step of exposing a resist film in the first divided exposure region to form a latent image which defines one edge of the resist pattern in the vicinity of a boundary between the first divided exposure region and the second divided exposure region, wherein the one edge is defined, in part, through the use of a first cutout portion, formed in a first mask, that extends in a first direction past a stitching portion and into the second divided exposure region; and another step of exposing the resist film in the second divided exposure region to form a latent image which defines another edge of the resist pattern, opposite the one edge, in the vicinity of the boundary, wherein the other edge is defined, in part, through the use of a second cutout portion, formed in a second mask, that extends in a second direction past the stitching portion and into the first divided exposure region, where the second direction is opposite of the first direction, as defined in amended independent Claim 1.

One example of an embodiment of the use of the method defined by Claim 1 is shown in Applicant's Figures 4A, 4B and 5. Figures 4A and 4B show first and second masks M1 and M2, which are used to form a resist pattern, such as resist pattern 34b, 35b. Figure 5 shows the relative positioning of the first mask M1 and the second mask M2, where mask M1 may be used either before or after mask M2. As can be seen in Figure 5, the resist pattern 34b, 35b extends across an overlap region 36 between the first and second masks.

Turning back to Figure 4A, mask M1, which, in this embodiment, is used when exposing the resist film in the first divided exposure region, forms a latent image that defines one edge of the resist pattern (such as the upper edge of 34b) in the vicinity of the boundary between the first and second divided exposure regions, where the boundary is represented by dashed line "a." This upper edge of 34b is defined, in part, through the use of first cutout portion 50 formed in the first mask M1, that extends in a first direction (i.e., to the right) past stitching portion (dashed line "a") and into the second divided exposure region.

When exposing the resist film in the second divided exposure region, mask M2 of Figure 4B is used, and this mask forms a latent image that defines another edge of the resist pattern (such as the lower edge of 35b) in the vicinity of the boundary (dashed line "a"), where this lower edge of 35b is defined, in part, through the use of a second cutout portion 52 formed in the second mask M2, that extends in a second direction (i.e., to the left) past stitching line "a" and into the first divided exposure region. As can be seen in Figure 5, when masks M1 and M2 are used sequentially, the resist pattern, such as 34b, 35b, that extends across the first and second divided exposure regions, is formed.

In contrast, the Tanaka et al. reference fails to disclose the method defined in amended Claim 1. More specifically, the Tanaka et al. reference lacks the steps of exposing the resist film in the first and second divided exposure regions through the use of a first mask with "a first cutout portion . . . that extends in a first direction past a stitching portion and into the second divided exposure region" and a second mask with "a second cutout portion . . . that extends in a second direction past the stitching portion and into the first divided exposure region," as now defined in independent Claim 1. Figure 6 of the Tanaka et al. reference shows how any of the portions that could possibly be considered as the first and second cutout portions fail to extend past stitching portion 62 and into the other divided exposure region. More specifically, the widened portions starting to the left of stitching portion 62 terminate within stitching portion 62, without extending further to the right, past stitching portion 62 and into the right-hand exposure region. Similarly, the widened portions starting to the right of stitching portion 62 terminate within stitching portion 62, without extending further to the left, past stitching portion 62 and into the left-hand exposure region. According, as all of the features of independent Claim 1 are not disclosed in the Tanaka et al. reference, Applicant respectfully requests the withdrawal of this §102(b) rejection of independent Claim 1 and associated dependent Claims 4, 7, 10 and 13.

Claims 1, 4, 7, 10 and 13 stand rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent Application Publication No. 2002/003984 to Takizawa. Applicant respectfully traverses this rejection.

Applicant respectfully submits that the Takizawa reference fails to disclose all of the features of independent Claim 1. More specifically, the Takizawa reference fails to disclose a pattern forming method that uses a first mask and a second mask, wherein one edge of the resist pattern is formed by the first mask, and another edge of the resist pattern, opposite the one edge, is formed by the second mask. A review of Applicant's Figures 4A, 4B and 5 show one example of such a procedure in which one edge (the upper edge) of resist pattern 34b (near index number 50) is formed by first mask M1 and the opposite edge (the lower edge) of resist pattern 35b (near index number 52) is formed by second mask M2.

In contrast, in the device of Takizawa, both opposing edges of the same resist pattern are formed with the same mask. For example, Figure 1 of Takizawa shows how both the upper and lower opposing edges of the horizontally extending gate bus lines are formed by a single mask (either mask RTa1 or mask RTb1). Similarly, both the right and left edges of the vertically extending drain bus lines are formed by a single mask (either mask RTa1 or mask RTb1). Paragraph [0056] of Takizawa even discusses how patterns for elements such as the drain bus lines should be placed in the *center* of the patterning region, which is the opposite of the present invention of Claim 1 in which portions of the patterns for certain elements are placed at the very edge of the patterning region so that one edge of the pattern is formed by one mask and an opposite edge is formed by another mask. Accordingly, as all of the features of independent Claim 1 are not disclosed in the Takizawa reference, Applicant respectfully requests the withdrawal of this §102(b) rejection of independent Claim 1 and associated dependent Claims 4, 7, 10 and 13.

Claims 1, 4, 7, 10 and 13 stand rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 6,356,320 to Chung et al. Applicant respectfully traverses this rejection.

Applicant respectfully submits that the Chung et al. reference fails to disclose all of the features of the present invention. More specifically, the Chung et al. reference fails to disclose a pattern forming method with two exposing steps in which the mask used in each exposing step includes a cutout portion that extends past the stitching portion. In contrast, the Chung et al. reference fails to disclose the shape of the masks used at all. Further, a review of Figures 7 and 8 of Chung et al. appears to show that the masks would lack such cutout portions, at the border part D, that extend past the stitching portion (border part D) because otherwise the linear center portions of the data bus lines with widths "a" would not be formed as shown. Accordingly, as all of the features of independent Claim 1 are not disclosed in the Chung et al. reference, Applicant respectfully requests the withdrawal of this §102(b) rejection of independent Claim 1 and associated dependent Claims 4, 7, 10 and 13.

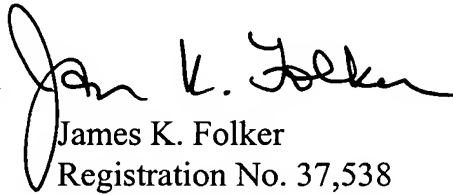
Finally, Applicant has also added new dependent Claim 18. Applicant respectfully submits that new dependent Claim 18 is allowable for at least the same reasons discussed above with regard to associated independent Claim 1.

For all of the above reasons, Applicant requests reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference

would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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April 4, 2007

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